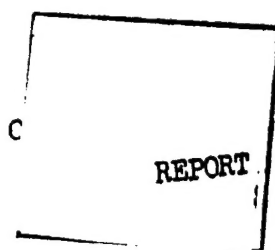


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REPORT ON THE GENERAL MEETING OF THE ACADEMY OF
SCIENCES USSR, 24-25 FEBRUARY 1960

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FOREWORD

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REPORT ON THE GENERAL MEETING OF THE ACADEMY OF
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[Following is a translation of an unsigned article
in the Russian newspaper Pravda, Vol. 48, No. 56 (15180),
25 February 1960, page 1.]

New Researches, Outstanding Discoveries

Yesterday the general meeting of the Academy of Sciences USSR, devoted to the results of scientific activity and the introduction of the completed scientific projects of the Academy for 1959, opened at the Moscow House of Scientists.

In his introductory speech, academician A. N. Nesmoyanov, President of the Academy of Sciences USSR, briefly described the work of the Academy during the past year. A number of results of interest and importance to science and the practice were achieved. In 1959 three rockets were launched into space, bringing back the first direct data on space conditions at distances up to a half-million kilometers from the earth. Obtaining the first photographs of the other side of the moon was a wonderful accomplishment of Soviet science and engineering. Fundamental data on the distribution, composition, and energy spectrum of particles of the outer radiation belt of the earth, discovered the year before, were also obtained. The absence of a magnetic field of the moon was established. In the investigation of space our science has clearly maintained its leadership.

Research on semiconductors is bringing new practical used and ever widening prospects. One important factor is the development by the Institute of Precision Mechanics and Computer Engineering, together with industry, of the "M-20" high-speed electronic computer. This has the highest speed of the existing series-produced machines. The introduction of electronic computers is bringing good results in the most diverse fields of science.

"Our research in the field of natural physiologically active substances has been deficient," the speaker announced further, "but now the situation has been corrected." An Institute of Natural Compounds has been established. A new Institute of Radiation and Physicochemical Biology has

begun work. Other institutes are also working widely in this field. The following were produced: synthetic blood substitutes; anticoagulants; antisclerotic and anesthetic substances; antitubercular preparations; substances giving protection against the action of ionizing radiation.

A method of producing highly active hormones has been developed by Soviet microbiologists. Transmitted to industry were methods of producing bacterial enzymes of importance to industry, and domestic "gibberellin," a powerfully-acting plant-growth stimulant.

The institutes of the Technical Department have worked successfully.

The technical sciences have expanded. Their immediate importance to the national economy is extremely great, and the number of scientific institutes of industry is tremendous. For this reason the importance of the Department of Technical Sciences is far greater than the work of the individual institutes of this Department. The Technical Department is the most authoritative collegium of scientist-engineers, on the shoulders of which rests a good share of the responsibility for the technical progress of the country. This is why it is necessary that the resources of the Department be concentrated, in still greater measure, on the areas and problems of technical sciences which will revolutionize engineering, such as automation and telemechanics, radio engineering, new fields of power engineering, etc.

"Many aspects of the life and activity of the Academy of Sciences, however, are as yet not satisfactory," said A. N. Nesmeyanov. "Although the Academy of Sciences has participated in the solution of important scientific problems of the present, not in all such problems has it played the leading role."

The speaker stated further that strengthening its affiliates represents a method of reorganizing and further improving the activity of the Academy of Sciences USSR.

In conclusion, A. N. Nesmeyanov, in the name of the General Meeting, expressed deep appreciation to the Communist Party and the Soviet Government for their tireless efforts as regards the development of Soviet science.

Carrying out the duty of the Chief Scientific Secretary of the Presidium of the Academy of Sciences, corresponding member of the Academy of Sciences USSR Ye. K. Fedorov stepped forward with a report on the results of scientific activity and the introduction of the completed scientific projects of the Academy of Sciences USSR for 1959.

The participants of the meeting were warmly greeted by Chief Secretary of the Academy of Sciences of China, P'ei Li-sheng.

Discussion began on the report. Today the General Meeting of the Academy of Sciences USSR continues its work.

Directly below is a translation of an unsigned article, ibid., No. 57 (15181), 26 February 1960, page 4.

Intimately Related to the Practice, To Life

At the Moscow House of Scientists, where the General Meeting of the Academy of Sciences USSR is going on this evening, discussion continued on the results of scientific activity and the introduction of the completed scientific projects of the Academy for 1959. The speakers paid particular attention to the necessity of solving the great problems of science connected with the task of building Communism, the further increasing of the level of scientific research, and the wide application of the achievements of science in production.

The past year was rich with projects in the fields of the natural and technical sciences, the successes of which have greatly aided technical progress. A number of speeches were devoted to the investigations in these fields of knowledge.

Academician A. L. Mints, speaking on the development of radio engineering and radio electronics, stressed the tremendous importance of semiconductors and ferrites in this field of science and engineering.

The great future of semiconductors was described by academician A. F. Ioffe. Semiconductors present the possibility of the direct conversion of heat energy into electricity. Not so long ago the conversion factor in this amounted to a total of several percent, whereas now it is considerably higher. This means that in power engineering and in refrigeration there has begun a new stage of technical progress. The energy of light can create veritable "food factories" for a yearround supply of vegetables for the people of Siberia and other northern regions of the country.

Corresponding member of the Academy of Sciences USSR N. A. Chinakal took exception to the underestimation of the technical sciences by certain scientists. Engineering represents the wings of science, he said, noting the tremendous role of engineering resources in the solution of problems of atomic energy and the study of space.

In his speech A. A. Blagonravov threw light on the importance of the work of the Department of Technical Sciences and its institutes to many branches of the national economy. He spoke out against the separation of sciences into the "academic" and the "non-academic."

"We have one science--Soviet," said the speaker, with applause from those present.

"A close union of theory with practice is the tradition of our national science," said academician K. I. Satpayev, President of the Academy of Sciences, Kazakh SSR, in his speech. "The technical sciences acquire particular significance, because they render effective aid to the national economy."

The speaker cited examples showing that investigations carried out in the field of mining have yielded many millions to the national economy. In his opinion, confusion exists in the organization of the Academy of Sciences USSR in the field of the geological sciences. Any problem in geology is now solved by using the methods of geophysics, geochemistry, paleontology, and stratigraphy. Yet they are separated from one another in the Academy: geophysics is found in the Department of Physicomathematical Sciences; geochemistry in the Department of Chemical Sciences; paleontology and stratigraphy in the Department of Geological and Geographical Sciences. K. I. Satpayev proposed assembling all these disciplines in one department.

Soviet chemists carried out many important scientific projects having great practical significance. Academician A. Ye. Arbuzov reported on the introduction into practice of certain results of investigations in the field of organophosphorous compounds, including therapeutic preparations. He spoke out against the indiscriminate approach to so-called parallelism in scientific investigations. There is harmful parallelism and useful parallelism, said the speaker. If the question is the penetration "into the next stage of science" or the solution of great problems having national economic importance, then parallelism is fully admissible.

The speaker brought forward as an example the solution of the problem of producing synthetic rubber. This work was entrusted to certain groups of scientists and yielded positive results.

Academician V. A. Kargin spoke on important trends in investigations in the field of high molecular compounds. He brought forward a number of critical observations on the solution of problems of synthetic chemistry. Yu. G. Mamedaliyev, President of the Academy of Sciences, Azerbaijan SSR, and corresponding member of the Academy of Sciences USSR, cited examples of the sound coordination of projects in petrochemistry.

Academician V. A. Ambartsumyan, President of the Academy of Sciences, Armenian SSR, spoke on successes and problems of astronomy.

L. A. Zenkevich, corresponding member of the Academy of Sciences USSR, devoted his speech to oceanology. Investigators are now approaching the problem of drilling through the earth's crust under the ocean, through all the strata of bottom deposits. This would permit reconstruction of the history of the ocean and its life in various epochs. Inexhaustible mineral wealth representing tremendous mineral resources is stored on the bottom of the ocean.

A number of speeches were devoted to the development of the social sciences. Academician K. V. Ostrovityanov, Vice President of the Academy of Sciences USSR, reported on the well-known approach of scientific investigations in the field of the social sciences to the building of Communism. Economists and philosophers took active part in elaborating the prospects of the development of the national economy. K. V. Ostrovityanov spoke on the necessity of using mathematical methods and computer techniques in economic investigations and planning.

The tremendous successes of natural science have placed before philosophers a number of important new problems. These were clarified in the speech of P. N. Fedosyev, corresponding member of the Academy of Sciences USSR.

The recent decree of the Central Committee of the Communist Party on propaganda at the contemporary stage, places great problems before Soviet scientists. Many speakers spoke on this. Academician I. I. Artobolevskiy stressed the fact that propaganda on natural scientific and technical knowledge among the people still occupies a very small place in the work of a number of institutes. Many scientists do not take part in popularizing science. Little popular scientific literature is published.

Academicians V. V. Shuleykin and V. A. Engol'gardt; corresponding members of the Academy of Sciences USSR V. V. Belousov, D. D. Blagoy, V. M. Khvostov, P. A. Baranov; Chairman of the Presidium of the Moldavian Affiliate of the Academy Ya. S. Grosul; and others also came forward in the discussions. In accordance with the report of Acting Chief Scientific Secretary of the Presidium of the Academy of Sciences USSR, Ye. K. Fedorov, a resolution was adopted. Noting the tremendous accomplishments of Soviet science, the General Meeting of the Academy of Sciences considers that in a number of fields of scientific research there is still disparity between the magnitude of the tasks being advanced in the era of the building of Communism and the attained level of scientific work.

N. G. Basov, doctor of physicomathematical sciences, was heard at the evening session. He gave an account of the

results of work in the field of quantum radiophysics being done by him together with A. M. Prokhorov, doctor of physico-mathematical sciences, and associates of the Physics Institute.

In closing, A. N. Nesmeyanov reported on the awarding of the Lenin prizes for 1959 to workers of the Academy of Sciences USSR. After that came the delivery of the gold medals and prizes of the Academy of Sciences USSR to a group of scientists for meritorious scientific work.

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